

What is claimed is

1. A method of connecting electrical connectors to printed circuit boards, comprising the steps of:

    providing a PCB (printed circuit board) having a signal line, a ground, and a ground plane having a ground shield electrically connected thereto;

    providing an electrical connector having an outer ground shield;

    providing a conductive shield;

    electrically connecting the conductive shield to the PCB ground;

    electrically connecting the conductive shield to the ground shield of the electrical connector;

    electrically isolating the conductive shield from the PCB signal line; and

    electrically connecting the conductive shield to the ground shield on the PCB.

2. The method of connecting electrical connectors to printed circuit boards as claimed in claim 1, further comprising the steps of:

    electrically connecting the conductive shield to the PCB ground in a substantially continuous manner substantially encompassing an entire circumference of the conductive shield;

    electrically connecting the conductive shield to the ground shield of the electrical connector in a substantially continuous manner substantially encompassing an entire circumference of the electrical connector ground shield; and

    electrically connecting the conductive shield to the ground shield of the PCB in a substantially continuous manner.

3. The method as claimed in claim 2, wherein the steps of electrically connecting in a substantially continuous manner comprises spacing adjacent ground points of the connection between the conductive shield and the respective ground shield by less than about one percent of a signal wavelength.

4. The method of connecting electrical connectors to printed circuit boards as claimed in claim 1, wherein the electrical connector is a surface-mount (SMT) connector.

5. The method of connecting electrical connectors to printed circuit boards as claimed in claim 1, further comprising electrically connecting the conductive shield and mechanically strengthening the connector by soldering the outer ground shield to the conductive shield.

6. A method of connecting electrical connectors to printed circuit boards, comprising the steps of:

providing a first PCB (printed circuit board) having a signal line and a ground;

providing an electrical connector having an outer ground shield;

providing another PCB as a conductive shield;

electrically connecting the conductive shield to the first PCB ground;

electrically connecting the conductive shield to the ground shield of the electrical connector; and

electrically isolating the conductive shield from the first PCB signal line.

7. The method as claimed in claim 6, further comprising tuning a desired characteristic impedance of the signal line by forming a strip-line geometry as between the conductive shield PCB in conjunction with the signal line on the first PCB.

8. The method of connecting electrical connectors to printed circuit boards as claimed in claim 6, wherein the electrical connector is a surface-mount (SMT) connector for radio frequencies (RF).

9. The method of connecting electrical connectors to printed circuit boards as claimed in claim 6, wherein the electrical connector is a surface-mount (SMT) connector for radio frequencies (RF) and the another PCB conductive shield has a geometry tuning a desired impedance of the signal line and electrical isolation of the signal line and ground.

10. The method of connecting electrical connectors to printed circuit boards as claimed in claim 6, further comprising electrically connecting the PCB shield and

mechanically strengthening the connector by soldering the outer ground shield to the another PCB's conductive shield.

11. A low EMI high mechanical strength connection between an electrical connector and a printed circuit board, comprising:

a PCB (printed circuit board) having a signal line, a ground, and a ground plane having a ground shield electrically connected thereto;

an electrical connector having an outer ground shield;

a conductive shield, electrically isolated from the PCB signal line, electrically connected to the PCB ground, the ground shield of the electrical connector, and to the ground shield on the PCB.

12. The low EMI high mechanical strength connection as claimed in claim 11, further comprising:

the conductive shield electrically connected to the PCB ground in a substantially continuous manner that substantially encompasses an entire circumference of the conductive shield;

the conductive shield electrically connected to the ground shield of the electrical connector in a substantially continuous manner that substantially encompasses an entire circumference of the electrical connector ground shield; and

the conductive shield electrically connected to the ground shield of the PCB in a substantially continuous manner.

13. The low EMI high mechanical strength connection as claimed in claim 12, wherein the substantially continuous connection comprises adjacent ground points of the connection between the conductive shield and the respective ground shield being spaced apart by less than about one percent of a signal wavelength.

14. The low EMI high mechanical strength connection as claimed in claim 11, wherein the electrical connector is a surface-mount (SMT) connector.

15. The low EMI high mechanical strength connection as claimed in claim 11, further comprising the conductive shield electrically connected and mechanically

strengthened to the connector by solder.

16. The low EMI high mechanical strength connection as claimed in claim 11 further comprising PCB vias that connect ground connections of a top ground plane to a bottom ground plane.

17. A low EMI high mechanical strength connection between an electrical connector and a printed circuit board, comprising:

a first PCB (printed circuit board) having a signal line and a ground;

an electrical connector having an outer ground shield;

another PCB as a conductive shield, electrically isolated from the first PCB signal

line, and electrically connected to the first PCB ground and the ground shield of the electrical connector.

18. The low EMI high mechanical strength connection as claimed in claim 17, further comprising a tuned characteristic impedance of the signal line formed by a strip-line geometry as between the conductive shield PCB in conjunction with the signal line on the first PCB.

19. The low EMI high mechanical strength connection as claimed in claim 17, wherein the electrical connector is a surface-mount (SMT) connector for radio frequencies (RF).

20. The low EMI high mechanical strength connection as claimed in claim 17, wherein the electrical connector is a surface-mount (SMT) connector for radio frequencies (RF) and the another PCB conductive shield has a geometry that tunes a desired impedance of the signal line and electrical isolation of the signal line and ground.

21. The low EMI high mechanical strength connection as claimed in claim 17, further comprising the PCB shield electrically connected and mechanically strengthened to the connector by solder.

22. The low EMI high mechanical strength connection as claimed in claim 17 further comprising PCB vias that connect ground connections of a top ground plane to a bottom ground plane.